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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,313	01/04/2007	Masahiko Akutsu	1248-0675PUS1	2798
2292 7590 09/08/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER RAINEY, ROBERT R				
ART UNIT		PAPER NUMBER		
2629				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/586,313

Applicant(s)

AKUTSU ET AL.

Examiner

ROBERT R. RAINEY

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 11, 14, 17, 23-32 and 34-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 11, 17, 23-32 and 35-36 is/are rejected.
- 7) ☐ Claim(s) 14 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/14/06; 10/13/06; 5/9/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 3-10, 12, 13, 15, 16, 18-22, and 33 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 13 June 2008.
2. Applicant's election with traverse of species 1C in the reply filed on 13 June 2008 is acknowledged. The traversal has several parts.

The first traversal is on the ground(s) that claims 12, 13 and 14 are related by a single inventive concept. This is not found persuasive because applicant does not indicate what this single inventive concept is nor provide arguments as to why this is so. If applicant purports that these claims do not relate to distinct species, examiner will accept such a statement on the record and will reinstate the non-elected claims but reminds applicant that in such a case **art found to reject one species will then reject all species**.

The second traversal is on the ground(s) that examiner cited PCT Rules 13.1 and 13.2 rather than citing U.S. law. This is not found persuasive because this case is a national stage of a PCT filing. For cases so filed, PCT rules for lack of unity apply rather than traditional USPTO restriction/election rules. See MPEP 1896 for a table describing the differences between a traditional application and a PCT national stage, i.e. a '371', application.

The third traversal is on the ground(s) that as there are generic claims linking all species it is improper to require restriction between species. This is not found persuasive because no allowable generic claims were identified, thus no special technical feature was found to be common to the species.

The fourth traversal is on the ground(s) that the examiner did not demonstrate burden. This is not found persuasive because the rules for lack of unity do not involve a showing of burden. To review the rules for lack of unity see for example: MPEP Appendix T especially Rule 13 or www.wipo.int includes a relevant document titled "International Search and Preliminary Examination Guidelines".

The requirement is still deemed proper and is therefore made FINAL.

Claim Objections

3. Claims 27, 30 objected to because of the following informalities: In these claims the terms "current" and "previous" seem to have been transposed in location in the phrase "... so as to emphasize grayscale transition at least from current vertical period to previous vertical period ..." putting them in conflict with the other independent claims and examiners understanding of the flow of time. Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 26 and 27 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to a program.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1, 11, 24, 25, 29, 30, and 32** rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Unexamined Patent Publication No. 2003-143556 to *Tokukai et al.* ("*Tokukai*"). NOTE THAT: references to *Tokukai* refer to the applicant provided translation or Abstract.

As to **claim 11**, *Tokukai* discloses a signal processing unit for use in a liquid crystal display device, the signal processing unit comprising: conversion means which converts an interlaced video signal into a progressive video signal (see for example Fig. 20 especially the section labeled "I-P CONVERSION PROCESS"); and correction means which corrects a video signal of current vertical period so as to emphasize grayscale transition at least from previous vertical period to current vertical period in the progressive video signal (see for example Fig. 23 and [0064]-[0065]), wherein the conversion means is capable of conversions by two or more conversion methods (see for example Fig. 20

especially the section labeled "I-P CONVERSION PROCESS" noting that a different method is used in each branch), and a degree of the grayscale transition emphasis performed by the correction means is changed in accordance with a conversion method used by the conversion means (see for example Fig. 20 especially the section labeled "OVERDRIVE PROCESS" noting that the degree of emphasis is changed in that emphasis is unity in the right branch, that is the signal is not changed, and emphasis is non-unity in the left branch).

As to **claim 24**, *Tokukai*, in addition to the rejection of claim 11, further discloses a liquid crystal display device including the signal processing unit (see for example Abstract).

Claims 1 and 25 are rejected on the same grounds and arguments as claim 24 and claim 11.

Claims 29, 30 and 32 claim the method implicit in the apparatus claimed in claim 24 and are rejected on the same grounds and arguments as claim 24 and claim 11.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 23, 26-28, 31, 35, and 36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Unexamined Patent Publication No. 2003-143556 to *Tokukai et al.* ("*Tokukai*")

Claim 23, is rejected on the same grounds and arguments as claim 24 and claim 11 over *Tokukai* with the additional argument that:

Tokukai does not expressly disclose that the emphasis is performed for each pixel but it would have been obvious to one of ordinary skill in the art to apply the method to each pixel in order to achieve the benefits for each pixel.

Claims 26-28 and 36 are rejected on the same grounds and arguments as claim 24 and claim 11 over *Tokukai* with the additional argument that:

Tokukai does not expressly disclose that the features are embodied in a program encoded on a storage medium.

Examiner takes official notice that one of ordinary skill in the art was aware of digital signal processing, that it could be used to perform the functions described by *Tokukai* and that to perform the processing one would use a

program encoded on a storage medium. This is evidenced by the fact that digital signal processing was widely taught and practiced prior to the invention.

Claim 31, claims the method implicit in the apparatus of claim 23 and is rejected on the same grounds and arguments.

Claim 35 is rejected on the same grounds and arguments as claim 23 since its rejection included the LCD device.

9. **Claims 2 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Unexamined Patent Publication No. 2003-143556 to *Tokukai et al.* ("*Tokukai*") in view of Published PCT Application Publication No. WO-03/041043 to *Sugino et al.* ("*Sugino*").

NOTE THAT: references to *Sugino* refer to U.S. Patent Application Publication No. 2004/0201564, which is the U.S. national stage publication of the underlying application for WO-03/041043, PCT/JP02/11745.

As to **claim 2**, in addition to the rejection of claim 1 over *Tokukai*:

Tokukai does not expressly disclose table memory which stores an emphasis conversion parameter determined by video data of current vertical period and video data of previous vertical period, the emphasis conversion means having: an operation section which performs emphasis operation on the

video data by using the emphasis conversion parameter; and a multiplying section which multiplies output data obtained by the emphasis operation by a coefficient varying depending upon which kind of conversion method among the two or more conversion methods is used for the conversion.

Sugino discloses a liquid crystal display which emphasizes gray scale transition (see for example Title and Fig. 17), and in particular table memory which stores an emphasis conversion parameter determined by video data of current vertical period and video data of previous vertical period, the emphasis conversion means having: an operation section which performs emphasis operation on the video data by using the emphasis conversion parameter (see for example Fig. 1).

Tokukai and *Sugino* are analogous art because they are from the same field of endeavor, which is displays using gray scale transition emphasis.

Tokukai as modified by *Sugino* disclose the claimed invention except for the emphasis conversion means having: a multiplying section which multiplies output data obtained by the emphasis operation by a coefficient varying depending upon which kind of conversion method among the two or more conversion methods is used for the conversion.

Sugino further discloses a comparable device (see for example Fig. 1 the box labeled "Write-gray scale level determining means") improved by adding the ability to change the degree of emphasis by including a multiplying section which multiplies output data obtained by the emphasis operation by a coefficient

varying depending upon which of two or more temperatures is sensed (see for example Fig. 7 and [0126]–[0127]).

One of ordinary skill in the art could have applied known improvement technique taught by *Sugino* and the results would have been predictable.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to use table memories to store emphasis conversion parameters and use them in an operation section to perform the emphasis operation after *Sugino* as the method of implementing the emphasis operation, i.e. “OVERDRIVE PROCESS” of *Tokukai*. The suggestion/motivation would have been to provide advantages such as to provide a write-gray scale determining means based on actual measurement of the optical response characteristics of a liquid crystal display panel (see for example *Sugino* [0006]–[0007]).

Claim 17 claims a subset of the limitations of claim 2 and is rejected on the same grounds and arguments.

Allowable Subject Matter

10. **Claims 14 and 34** objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: The prior art found does not teach "in a case where the conversion means performs conversion by the second conversion method, a degree of grayscale transition emphasis performed by the correction means is changed to be lower than in a case where the conversion means performs conversion by the first conversion method". For example *Tokukai* teaches the opposite arrangement.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,452,639 is from the same patent family as EP0946055 on IDS.

U.S. Patent Application Publication No. 2004/0201564 is from the same patent family as WO03041043 on IDS.

U.S. Patent No. 5,844,533 is from the same patent family as JP04365094 on IDS.

U.S. Patent Application Publication No. 2006/0176262 is from the same patent family as JP3579046 on IDS.

U.S. Patent No. 7,397,457 is from the same patent family as WO03041044 on IDS.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT R. RAINEY whose telephone number is (571)270-3313. The examiner can normally be reached on Monday through Friday 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571) 272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RR/

/Amare Mengistu/
Supervisory Patent Examiner, Art Unit 2629